18 December 1958

MEMORANDUM FOR THE RECORD

SUBJECT: Trip to TSS/APD Contractor on Project [redacted] 25X1

1. On 11 December 1958, accompanied by David Cubbage NRL, I visited Edgerton, Germeshausen, & Grier, 160 Brookline Avenue, Boston, Mass. Here I met [redacted]. The remainder of the day and throughout the following day a general run-down on all phases of project [redacted]" was presented. 25X1 25X1

2. It appears that NRL has responsibility of modifying the vehicle for transporting the black boxes to be employed. This consists of modifications to the [redacted] weather station device. NRL has modified the legs of the up-righting device; relocated some of the gas lines and controls to provide room for the black boxes; and in addition, they are working on what is known as Phase I of the detection device. To date NRL has not been entirely successful in developing equipment which will receive and transmit signals simultaneously. [redacted] apparently questions the value of continuing Phase I work when this development is not providing the stop-gap equipment until Phase II work is ready. Phase II is a more elaborate system which will receive, store and transmit on demand information desired. Phase II equipment can record up to 12 events, each event holding up to 16 bits, and transmit this data on demand. 25X1 25X1

3. The discussion centered around the practical operation of the equipment. It was pointed out that incoming and outgoing information cannot be handled simultaneously and that a definite sequence of operation must be followed to assure effective operation. The device must be erased after transmission, if it is to receive once more.

4. It is believed that the device can be made insensitive to extraneous effects such as lightning but probably at the cost of failure to record some events. The E. G. & G. people feel Phase II is theoretically possible but reliability under all conditions of operation is not completely assured. They appeared to need guidance on all phases of operation of the equipment. They would like to know where compromises can be made, and what characteristics must be obtained at all costs.

5. In addition to the discussion concerning the electronic gear, a demonstration of the mechanical functioning of the search head was made. This head mounts on top of the [redacted] and is simple and ingeneous in design. By means of a commercially available airplane type compass an azimuth setting can be preselected. When the [redacted] sets itself up the compass orients the search head. The head then levels itself by [redacted] 25X1 25X1 25X1

being released from its shipping position and then clamps itself in a level position, pointed in the desired direction. The device will orient properly even up to angles of 30°; that is if the Grass hopped sets up on a 30° slope.

6. [redacted] E. G. & G. engineer, stated that he felt the [redacted] 25X1 was an appropriate vehicle but that probably modification in addition to that already being done by NRL was in order. Tests have indicated that the [redacted] in a high wind is not sufficiently stable to prevent ill effects 25X1 being introduced to the sensing mechanism. [redacted] feels that a redesign 25X1 of the legs might be in order to secure a greater degree of flexibility.

7. As a result of this trip it is concluded that:

(1) The value of continuing Phase I work is in question

(2) Phase II is theoretically practicable but its reliability of operation is in question

(3) The present design of the [redacted] does not provide a sufficiently stable platform to operate from under adverse conditions. 25X1

[redacted] 25X1

:mt